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(54) **DIGITAL CAMERA FOR RECORDING A STILL IMAGE WHILE SHOOTING A MOVING IMAGE**

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See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,691,253 A 9/1987 Silver
(Continued)

FOREIGN PATENT DOCUMENTS

JP 04-068770 3/1992
(Continued)

OTHER PUBLICATIONS

International Search Report dated Feb. 27, 2001, Application No. PCT/JP00/08977.

(Continued)

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(57) **ABSTRACT**

In a digital camera, when snapshot shooting is instructed during recording of a moving image, a shot still image is temporarily pushed aside in a memory area for use in pushing aside (7a) in a frame buffer (7). A currently shooting motion image and a still image are displayed in parallel on a display (9), so that a user can confirm a content of a snapshot. The moving image continues to be recorded even during a push-aside operation. After a moving image processing is completed, the still image is processed by an image correcting circuit (4). The frame buffer (7) comprises a plurality of frame recording areas, and is shared on the occasions of a moving image processing and a still image processing. In a normal moving image processing, these areas are utilized in a cyclic manner, and when the still image is shot, any of areas will be utilized. Thereafter, the rest of areas are utilized in the cyclic manner for the moving images. The recording function for the moving image and still image is improved at low cost, it becomes easy to take a snapshot, and the merchandise size is not increased.

3 Claims, 10 Drawing Sheets